Type III Micro Surfacing To Extend the Life of Old Concrete Pavement-I-70 MM 10 +/-

Interim Report

Experimental Feature X(06)02-New Products

By: Michael Fazio, P.E., Deputy Director of Research
Barry Sharp, Research Specialist

Utah Department of Transportation
Research Division

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INTRODUCTION

The Utah Department of Transportation, Region Four Operations diamond ground the major portions of I-70 concrete to improve the skid and ride. The eastbound outside lane of I-70 at the east abutment of the Shingle Creek Structure, MM 10 +/- exhibited severe transverse cracking and degradation in general.

BACK GROUND INFORMATION

Region Four Operations determined that the concrete pavement located at MM 10 +/-, eastbound required some type of band aid be applied to the failing pavement to extend its life commensurate with the anticipated life of the rest of the concrete pavement.

Region Four Operations solicited Intermountain Slurry Seal Inc., located in Salt Lake City, to provide a process to extend the life of this 1500 LF of concrete pavement, outside lane only.

Intermountain Slurry Seal Inc. proposed a double application of micro surfacing for the first 880 LF then a single application of micro surfacing for the next 620 LF. The bid price was $ 2.00 per square foot for a single application, or one coat.

CONSTRUCTION

This type of pavement preservation or life extender of existing deteriorated concrete has, as far as known, never been applied in Utah. The Utah Department of Transportation (UDOT), Research Division, Ken Berg and Barry Sharp were present when the micro surfacing was applied, October 24, 2005. The installation of the micro surfacing, first went without a hitch but the weather prevented the second lift from being trouble free on the installation. There were three noticeable stop/start cosmetic flaws but none that will affect the function of this application.

The application of this process began with a .12 gallons per square yard of tack coat, CQS-1HP/1% polymer then first lift of micro surfacing, CPC total crushed aggregate, ¼" minus and SIM Emulsion at 13% by weight with a 3% polymer to about 3/8" thick application then the second application was the same. The overlay allowed traffic within 4 hours and the surface was even textured and the harsh aggregate used furnished a very high skid capability.

EVALUATION

Product will be evaluated in the fall and spring and of each year until the spring of 2007.

Product was visually evaluated in the fall of 2005 and the micro surfacing showed no evidence of failing but where the concrete joints were the material had cracked but has no affect on how the overlay is performing.

Before

After

Problem Solved Using Crack Sealant

A visual inspection was made June 1, 2006 by Barry Sharp, and pictures were taken that indicate no more wear or change that is seen in the above picture. The product is working well and the indications are that it will provide an extension of life for this particular piece of roadway. The two annual evaluations will be forthcoming, one this year and then at least two next year and then recommendations will be made at that time. One of the key benefits of this process is that traffic was allowed within four hours of the application. The surface was an even textured while the harsh aggregate furnished very good skid numbers.